Abstract

"Door to balloon time, the efficiency of Primary PCI system – Where do we stand? - A large tertiary care hospital experience from India"

DEPARTMENT OF CARDIOLOGY, CMCH, VELLORE

NAME OF THE CANDIDATE : DR. ANURAG JAIN

DEGREE AND SUBJECT : D.M. CARDIOLOGY

NAME OF THE GUIDE : DR. OOMMEN K. GEORGE

BACKGROUND/AIM: To determine the DTB in acute STEMI patients and to determine the causes for the delay in achieving DTB to ≤ 90 minutes, Clinical and angiographic profile of these patients with their outcomes within 30 days of STEMI.

METHODS: Ninety-six patients, who underwent primary PCI during Dec 2012 to Nov 2013, were divided into 2 groups based on their presentation to Cardiology department direct {CPU group} or indirect {Casualty group}. We assessed the time taken from door-to-balloon which was divided into 7 stages in both the groups and additional casualty delay in the patients who presented to emergency department [casualty group]. The primary aim of the study was to calculate Door to Balloon time at our centre and to determine the causes for delay in DTB in those patients who had DTB > 90 minutes.

RESULTS: The mean DTB for overall study patients was **98.1minutes** (SD=30.5 min) [mean DTB was **84.9 minutes** (SD=22.1min) ***in CPU group*** in compared to **123.4 minutes** (SD=28.5 min) ***in Casualty group*** with p value of **<0.001].** The DTB time ≤ 90 min was observed in **66.7%** and **12.1 %** in CPU and casualty group respectively. *Multivariate analysis* of time variables shown that ECG time, decision and finance arrangement, and vascular access time were predictors which delayed DTB > 90 minutes. The most common cause of delay in DTB in overall patients were late finance arrangement and casualty delay

which were seen in **41.8%** and **34.8%** patients respectively.[In the CPU group, the most common causes were late finance arrangement and procedural delay whereas in casualty group the most common causes were casualty delay and late finance arrangement]. DTB did not differ in patients with mode of payment or their timing [day-time or night-time] but there was trend towards higher DTB if the patients presented on weekdays [P value0.086]. Overall most common MI in our study was anterior wall MI; most of the patients had only Single vessel CAD [most common Culprit artery was LAD/Diagonal]; radial access was the access site of choice in **85.4%** patients; **83.3 %** patients had thrombectomy; stent deployment was observed in **90.6%** patients; TIMI flow had improved significantly in most of the patients (92.7%) after PCI. Overall 30 day mortality and MACCE in our study was observed in **6.25% & 8.3%** patients, respectively.

[Total 6 deaths - 4 were in-hospital deaths and 2 deaths due to sub-acute stent thrombosis within 30days follow up; one patient had ischemic stroke and another patient had recurrence of CHF within 30 days follow up]

Conclusion: The presentation of acute STEMI patients to emergency department, significantly delayed DTB when compared with admission to CPU. Apart from casualty delay the other causes for delay in DTB were-delay due to late financial arrangement, and hemodynamic instability and busy Cath lab and procedural delay. Majority [87.5%] of the MACCE occurred in DTB > 90 minutes patients.